

radiation cystitis, vesicovaginal fistula with or without residual malignancy, and ureteral obstruction.

This type of diversion affords the use of non-irradiated bowel as well as the ureter above the field of irradiation. Single layer end-to-side ureterocolic anastomoses were constructed without the use of antireflux techniques or ureteral stents. Complications were related to the patients' general condition and prior irradiation as well as to specific technical problems. Complications requiring additional surgical procedures included ureterocolic extravasation and obstruction, abdominal wound dehiscence, stomal prolapse and peristomal hernia.

Patients with preoperatively normal upper urinary tracts remained normal following diversion. Patients with unilateral or bilateral ureteral obstruction preoperatively tended to improve. The transverse colon conduit has been free of stomal stenosis, renal function changes or high residual urine volumes and should be considered the preferred intestinal segment for use in patients with extensive pelvic irradiation therapy.

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Avascular Renal Adenocarcinoma: Variations and Characteristics

THE CHARACTERISTIC NEOVASCULARITY seen in patients with renal carcinoma is absent in 10 percent of patients with this neoplasm. These tumors frequently simulate benign lesions and have varied diagnostic characteristics. All modalities including intravenous pyelography, nephrotomography, ultrasonography, cyst puncture with cystic fluid assessment, angiography and operation with tissue specimens submitted for pathologic examination may be required before diagnosis is established. An orderly approach to the evaluation of lesions will allow accurate diagnosis approaching 100 percent with minimum morbidity. Attention to the finer details of vascular patterns on angi-

ography has proved to be a very helpful diagnostic aid. Suspicion of carcinoma increases if, on a selective angiogram, there is (1) thickening of the "cyst" wall, (2) a rim vessel following the circumference of the lesion, (3) pericystic or capsular vessels entering an otherwise avascular mass, (4) increased vascularity of the parenchymal border and (5) contrast pooling, even to a minor degree, in a lesion on a delayed nephrogram. If aspiration of the tumor is done, histochemical, cytologic and radiographic examinations are necessary to diagnose these elusive lesions.

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Very Selective Renal Vein Renin Determination in the Diagnosis of Segmental Renal Hypertension

CATHETERIZATION of the main renal vein for renin assay is valuable in determining the clinical significance of a renal abnormality in a hypertensive patient. However, findings from main renal vein catheterization can be misleading in the presence of renin producing lesions that do not affect the whole kidney. Dilution of renin-rich segmental blood in the main renal vein, incomplete mixing or "streaming," and the presence of an accessory renal vein are reasons that a significant ratio is not found.

Catheterization of segmental renal veins should improve the accurate detection of renin mediated hypertension. We use bilateral, small diameter catheters, preshaped for upper and lower pole segmental vein placement, and have consistently obtained blood from any area of interest within a kidney. Simultaneous samples are obtained from both the normal and the abnormal portion of the kidney. Sampling error is reduced since the catheter tip is not easily dislodged from a small vein when the kidney moves with respiration or by change of position of the patient. The failure to catheterize a portion of a kidney alerts the angi-

ographer to search carefully for an accessory vein that drains directly into the inferior vena cava. There have been no complications noted with this technique.

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Clinicopathologic Features of Unsuspected Lymph Node Metastases in Prostatic Carcinoma

PELVIC LYMPHADENECTOMY is an important diagnostic tool in the accurate staging of patients with prostate cancer. In one study of 62 patients with clinical stage B₁, B₂ or C prostatic cancer, the cellular differentiation of the primary tumor and the extent of involvement of the prostate by the carcinoma correlated significantly with the incidence of unsuspected pelvic lymph node metastases. Using Mostofi's AFIP [Armed Forces Institute of Pathology] fascicle histologic classification system, 39 of the 62 patients had differentiated tumors and 23 had undifferentiated tumors. Eighteen tumors were Grade I, 39 were Grade II and 5 were Grade III. While in only 20 percent of patients with differentiated tumors were nodal metastases present, 56 percent of those with un-

differentiated tumors had metastases. Similarly, while an average of only 46 percent of the sections of prostate contained tumor in the patients without metastases, an average of 65 percent of the sections were involved by carcinoma in those patients who did have nodal metastases. All patients in whom less than 35 percent of the prostate sections were involved by tumor were free of metastases.

Although not statistically substantiated, there is a correlation between anaplasia and incidence of metastases. Metastases occurred in 22 percent of patients with Grade I, 34 percent with Grade II and 60 percent with Grade III tumors in this series.

No significant effect could be shown in the incidence of unsuspected pelvic nodal metastases for perineural invasion, vascular invasion, capsular invasion, extracapsular involvement or tumor at excisional margins. However, no patient had metastases unless a tumor had extended at least halfway through the capsule. Combining two histologic features resulted in correlations with incidence of nodal metastases less significant than using one of the variables singly.

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